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ABSTRACT

Understanding teen attitudes toward alcohol can provide a basis for education, prevention, and treatment programs for alcohol use. This thesis examines gender, grade level, peer attitude, parental attitude, and knowledge as independent variables while alcohol questionnaire scores for Use of Alcohol and Attitude Toward Drinking were employed as dependent variables. The sample consisted of 191 students in randomly selected classes from grades 9 through 12. Results supported 11 generalizations: (1) a more positive peer attitude toward alcohol correlates with a more positive attitude toward drinking; (2) a more positive peer attitude toward alcohol heightens the use of alcohol; (3) a more positive parental attitude toward alcohol is associated with a more positive attitude toward drinking; (4) a more positive parental attitude toward alcohol corresponds with the higher use of alcohol; (5) males exhibit a more positive attitude toward drinking than females; (6) males use alcohol more than females; (7) a higher grade level is associated with a more positive attitude toward drinking; (8) no association exists between grade level and alcohol use; (9) knowledge of alcohol is not associated with attitudes toward drinking; (10) knowledge of alcohol is unrelated to alcohol use; and (11) a positive association exists between attitudes toward drinking and alcohol use. Survey instruments are appended. (RM)

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HIGH SCHOOL STUDENTS'
ATTITUDE TOWARD AND
USE OF ALCOHOL

being

A Thesis Presented to the Graduate Faculty
of the Fort Hays State University in
Partial Fulfillment of the Requirements for

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Abstract

The purpose of the researcher was to investigate high school students' attitude toward and use of alcohol. The following independent variables were investigated: gender, grade level, peer attitude, parental attitude, and knowledge of alcohol. Alcohol questionnaire scores for Use of Alcohol and Attitude Toward Drinking were employed as dependent variables. The sample consisted of 191 students. Five composite null hypotheses and one null hypothesis were tested at the .05 level. A status survey factorial design was employed using a three-way analysis of variance (general linear model) for the composite null hypotheses and one null hypothesis was tested employing a t - test for correlation coefficient. Of the 36 comparisons, 11 were main effects and 26 were interactions. Of the 11 main effects, 8 were statistically significant at the .05 level. None of the 26 interactions were statistically significant at the .05 level.

The results of the present study appeared to support the following generalizations:

1. a more positive peer attitude toward alcohol is associated with a more positive attitude toward drinking;

2. a more positive peer attitude toward alcohol is associated with higher use of alcohol;
3. a more positive parental attitude toward alcohol is associated with a more positive attitude toward drinking;
4. a more positive parental attitude toward alcohol is associated with higher use of alcohol;
5. males have more positive attitude toward drinking than females;
6. males have higher use of alcohol than females;
7. an increase in grade level is associated with a more positive attitude toward drinking;
8. there is no association between grade level and use of alcohol;
9. knowledge of alcohol is not associated with attitude toward drinking;
10. knowledge of alcohol is not associated with use of alcohol; and
11. there is a positive association between attitude toward drinking and use of alcohol.

Introduction

Overview

"Alcohol abuse is the number one youth drug problem today" according to the National Institute on Alcohol Abuse and Alcoholism ("Teen-age Drinking," 1981, p. 351). Even though the national government and the media have been focusing on fighting illegal drugs, many state officials are turning their attention to teenage alcohol abuse. This is in reaction to school officials reporting that illegal drug use is declining while teenage drinking is increasing and national statistics indicating a higher number of patients being treated for alcohol abuse than illegal drugs (Isikoff, 1990). Schiks ("33 Percent," 1991), program director at Hazelden Pioneer House in Minnesota, a substance abuse treatment center for young people, states, "The top drug used is alcohol and it has always been, amidst the cocaine scares, the crack scares, it always has been" (p.2).

Alcohol use leads to other social problems as well. Teen-agers who drink are more likely to commit crimes or be the victims of crime. The U.S. Department of Justice reported that 27% of all murders, 31% of all rapes, and 37% of all robberies committed by young people are associated with drinking (Harrington-Lueker, 1992). Alcohol use affects a teen's performance in school, at work, and in athletics. It can lead to suicide or death by alcohol overdose. According to the National Highway Traffic Safety Administration and the

National Commission Against Drunk Driving, alcohol-related traffic accidents were the number-one killer of teen-agers . Under-age drinking causes the deaths of 4,000 youth each year-more than any other crime (Olinger, 1989).

Underage drinking is a problem which affects all groups of people: rebels, athletics, affluent, middle-class, poor, minorities, males, and females ("Alcohol and Other Drug," 1991). In 1990 a national school-based Youth Risk Behavior Survey (YRBS) measured the prevalence of health-risk behaviors among youth through comparable national, state, and local surveys. A representative sample was obtained from 11,631 students in 9th through 12th grades in the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Of all the students, "88% had consumed alcohol in their lifetime" (p.3266). The results also indicated that 36.9% of all students had drunk five or more drinks at least once in the 30 days before the survey ("Alcohol and Other Drug," 1991). A report by Richard P. Kusserow, inspector general of the Department of Health and Human Services, showed that half of the 20.7 million teen-age students in America drank, and of these, 8 million drank weekly (Modzeleski, 1990).

Gender and Grade Level Influence

The national statistics from YRBS were broken down by gender. "Male students (62%) were significantly more likely than female students (55%) to have consumed alcohol during the 30 days preceding the survey" ("Alcohol and Other Drug," 1991,

p.3266). Male students were also more likely to report heavy drinking than females.

Beck and Summons (1987) conducted a survey to determine if young males and females differed in the amount of alcohol consumed and the frequency of drinking as well as their beliefs about alcohol and their sources of information about alcohol. The sample of 2,315 students in the 9th through 12th grades in the Washington, D.C. metropolitan area was given an anonymous survey questionnaire. The results were consistent with national and regional findings which "show that males more frequently consume alcohol, in greater amounts, and report a higher incidence of abuse than do females in this age group" (Beck and Summons, p.37).

Torabi and Veenker (1986) developed an Alcohol Attitude Scale for Teen-agers to measure feelings, beliefs, and intentions to act relative to specific aspects of alcohol use. The scale was completed by 688 students in 9th through 12th grade and the responses were subjected to statistical analyses to test eight hypotheses. Of the respondents, 72% drank alcoholic beverages, and of that group 29% had five or more drinks on each occasion. A difference between male and female attitudes toward drinking behavior was found. "When mean scores for these two groups were subjected to the t-test, the attitudes of the male group were found to be significantly more favorable toward drinking alcohol than were the attitudes of the female subjects" (Torabi and Veenker, p. 98).

Kandal and Logan (1984) administered a follow-up study of a sample of teens who were formerly enrolled in 10th and 11th grades in New York public schools in 1971. The mean age of the 1,325 persons interviewed was 24.7 years. The purpose was to investigate patterns of initiation, continued use, and decline in drug use. They found that alcohol had been used by almost every subject and that male use consistently exceeded female use. "Highest usage peaks at around ages 19-20 for males, and ages 18-19 for females" (p.664).

A recent study (released June 1994) by Columbia University (Celis, 1994, June) indicated that the number of women in college who drink to get drunk has tripled in the past 20 years. The results showed that 35% of the college women polled last year drank heavily yet females still consumed fewer average drinks a week than males. The study was conducted by the university's Center on Addiction and Substance Abuse and contained data from other reports from Southern Illinois University.

Donovan and Jessor (1985) investigated how various self-reported problem behaviors of teens such as drug use, delinquency, drinking, and precocious sexual behaviors inter-related. They conducted a longitudinal study with a high school and college sample by administering a 50-page questionnaire. The results indicated a single common factor or syndrome underlies the different problem behaviors and demonstrated "considerable generality across sex" (p. 901).

They referred to this syndrome as a general dimension of unconventionality in both personality and social environment. Their composite index of personality and social conventionality included religiosity, conservatism, intolerance of deviance, and strict friend controls.

A longitudinal examination of the reciprocal relationship among drinking behavior, normative structure and peer alcohol use was performed by Downs in 1987. The two-stage research consisted of a telephone survey of 1,014 subjects between 13 and 17 years old randomly selected and a follow-up interview of 114 of them. The results indicated "that sex of the respondent is not correlated with any of the variables included in the study" (p.171). They tested this further by performing a one-way ANOVA for each baseline and follow-up variable and again no significant differences for sex were found.

Strecker (1991) investigated various influences on attitude toward use of alcohol by administering a survey (Alcohol Attitude Questionnaire) to 68 rural sixth graders and 60 rural eighth graders in three small communities in Kansas. The purpose of the researcher was to study how independent variables--gender, grade, perceived peer attitude, perceived parent attitude, community and knowledge of alcohol, interacted with the dependent variable--attitude toward use of alcohol. A three-way analysis of variance was employed for each null hypothesis and the results indicated that gender

($F=.20$, $p=.6518$) and grade ($F=1.77$, $p=.1858$) were not associated with attitude toward alcohol use.

The findings of Gibbons, Wylie, Echterling, and French (1986) indicated that being female is negatively related to heavy drinking. Of the males, 43% of them and 63% of the females were light drinkers. They administered the Student Alcohol Inventory to 650 students in the 7th through 12th grade in a small town and its surrounding county in a Middle Atlantic state. The results of the study also showed that males had their first drink earlier than females. The most significant indicator of heavy drinking was grade level, as "90% of seventh graders could be categorized as light drinkers, but by the 12th grade, only 39% were light drinkers" (p.896).

Another study which illustrated an increase in alcohol usage with age was performed by a group of researchers (McLaughlin, Baer, Pokorny, Burnside, and Fairlie) in 1984. They surveyed 2,598 students in 7th, 8th, 10th, and 11th grades in six schools near Houston, Texas. They found that not only use, but also frequency and quantity increased with age. In their study "males reported greater alcohol use than females" (p.21).

Peer Influence

Grube and Morgan (1988) used a Friedman's test to compare the mean ratings given to parents with that given to friends and found that peers were significantly more important as a

reference group for the students in their study. The sample of 5,709 students in Ireland answered their questionnaire about smoking, alcohol, and drugs. Peers had a mean ranking of 1.67 and parents had a mean of 1.33. The results indicated that attitude-normative belief interactions were more frequent for beliefs focused on peers than parents as 10 of 12 significant interactions focused on peers. "Perceived approval and perceived behaviors of parents were rarely involved in significant interactions" (p.17)

The purpose of Forney, Forney, and Ripley (1991) was to look at how teens' knowledge about alcohol, attitudes toward use of alcohol, and drinking behavior were affected by certain family and peer characteristics. They surveyed 1,177 black students in Georgia and South Carolina. Four of the six Chi-square analyses were statistically significant. "The most dramatic relationship was between the student and his/her best friend; nearly 70% of the students categorize the drinking behavior of their best friend as being identical to their own" (p.39). The researchers found parental modeling to be influential also, but not as much as a best friend's drinking pattern.

Downs (1987) found a reciprocal relationship between adolescents and their close friends. The quantity and frequency of drinking was increased by close friends. This influence of "peer pressure" can be positive or negative. An illustration of negative is that "100% of the teens who

entered treatment for chemical dependency stated that they began drinking because their friends encouraged them to and because they felt the need to fit in" (Truax, 1990, p.12). Berndt (1992) also maintained that influence among friends is mutual and that the power of friends' influence is often overestimated. Similarity may be due to selection, and the direction of influence depends on the friends' characteristics. He postulates that adults should not try to reduce friends' influence, but should concentrate on channelling it in a positive direction.

The purpose of Hubbard, Brownlee, and Anderson (1988) was to assess the nature and extent of alcohol and drug abuse among middle school students. A questionnaire was administered to 7,562 students in sixth, seventh, and eighth grades. Their results did not show any correlation between abuse and demographics. The researchers found some behaviors that indicated major risks of abuse and having friends who do not disapprove of alcohol or marijuana was one of them.

Downs (1985) conducted a longitudinal examination of drinking behavior, normative structure, and peer alcohol use and their reciprocal effects. The researcher collected baseline and follow-up data from a random sample of 100 adolescents (54 male/46 female). Peer influence differed according to gender. "No significant relationship was found between self and peer alcohol use over time among males" (p.469). However, the study indicated that females' alcohol

use is influenced by close friends.

Other researchers, as a consequence of their results, questioned the importance of peers. The findings indicated some support for the "friend influence model", yet Fisher and Bauman (1988) concluded that drug use similarity among friends was important in the formation of friendships, but not in the maintenance of them. They conducted two different longitudinal studies--one of ninth graders and their smoking behaviors and the other of sixth graders and their use of alcohol. Questionnaires were completed in their homes in North Carolina, and after the contingency tables were analyzed, results indicated friend influence was "only moderate in strength with no association coefficient exceeding .23. Additionally, detection of the effect was somewhat inconsistent" (p. 302). This research indicated the strength of influence of friends in the alcohol and smoking studies was about equal. In the study's results, perceived verses actual similarity between friends was more important.

Other researchers who compared the effect of peer influence and involvement in extracurricular activities on personal attitudes toward drug/alcohol use not only found evidence to support the importance of peers but also indicated the significance of family. Shilts (1991) administered the Alcohol and Drug Use Index to 237 seventh and eighth graders in southwestern Virginia. He found that "56% of the users, as compared to 88% of the abusers, reported that their friends

used substances" (p. 614). The nonusers reported spending much more time with family than the users and abusers. Only 35% and 18% of the users and abusers reported spending time with their family where 68.2% of the nonusers reported the same.

Results from Strecker's study in 1991 of the factors associated with attitude toward alcohol use indicated that peer influence was positively associated with attitude toward alcohol use ($p = .0001$). He also found that perceived parent attitude was significantly associated ($p = .0322$) to the respondents' attitude toward alcohol use.

Parent Influence

McDermott (1984) found that teen-agers were less likely to use drugs if they viewed their parents as having nonpermissive attitudes toward drug use. The researcher administered a drug use history profile and personal data questionnaire to 106 drug-users and 96 nondrug-users. The purpose was to compare parental attitude toward teen-age drug use and parental drug use. Four 2x2 Chi-square analyses were used to show the relationship between these two variables and adolescent drug use. The results indicated that what parents said was more important than what they did. When parents' substance use was held constant, the differences between the teen's use whose parents were viewed as permissive or nonpermissive were significant ($p = .05$ and $p = .001$).

A study by Selnow (1987) examined how having a single-

parent family affects the substance use of teens. A machine-readable questionnaire was completed by 3,759 students between 10 and 18 years old. A Substance Usage Index (SUI) was calculated for each student. An analysis of covariance was performed on the SUI and resulted in significant main effects for parental relationship and family status. The respondents who reported the highest substance use had the weakest relationship with their parents. "A strong difference exists between the strong and the weak parental relationship group (+-13.14, 1734 df, $p < .001$)" (p. 319). The researcher also noted that adolescents who lived in a one-parent home reported higher substance use than those in a two-parent home.

The findings of Grichting and Barber (1989) also indicated that quality of family life influences substance use. The study was conducted in North Queensland on a sample of 538 people. Three measures of quality of family life were included: acknowledged satisfaction, parental past, and current alcohol consumption. Through path analysis, it was found that each measure directly affected the amount of drug and alcohol consumption.

The parental role in adolescent drinking was also illustrated by Harford and Grant's (1987) research on psychosocial factors in adolescent drinking contexts. Data were obtained from a nationally representative sample of 74 senior high schools to estimate alcohol use among American teen-agers. Research Triangle Institute performed the 1978

national Survey of High School Students with a sample of 4,918 students in grades 10-12. A canonical correlation analysis was performed between the drinking context variables and each predictor variable for males and females. An association was found between parental drinking and approval of teen-age drinking with the frequency of drinking in adult contexts. The results indicated that teens' frequency of drinking increases when parents allow it in adult contexts.

Pandina and Johnson (1990) did not find that parents influenced adolescents' alcohol behavior. The purpose of the researchers was to determine if children who have a family background that was positive for alcoholism had more alcohol-related problems than children whose family background was not positive for alcoholism. The sample of 1,270 subjects completed a self-report questionnaire three times: 1979-1981, 1982-1984, and 1985-1987. "Results of T [t] tests (two-tailed) indicated no statistically significant differences in mean scores between family history groups with regards to either consumption pattern, the frequency of consequences experienced due to use or the degree to which subjects used substances to cope with problems" (p. 281).

Knowledge Of Alcohol

A report by the Inspector General (Novello and Shosky, 1992) pointed out that teens were lacking in information about alcohol and that may increase alcohol use among teens. The results of the report were obtained from a random national

sample of 956 junior high and high school students. The report, Youth and Alcohol: National Survey-Drinking Habits, Access, Attitudes, and Knowledge, indicated that "5.6 million students were unsure of the legal age to purchase alcohol" (p. 961). The report also indicated misunderstandings regarding the intoxicating affects of alcohol. Over 2 million students were unaware of the fact that an alcohol overdose can kill a person. Students also did not know the different strengths of alcohol in various beverages. According to Novello, much of this was due to the unreliable source that students used to get their information about alcohol, such as word of mouth from family, friends, and others. Few teens researched or looked for someone who would know. The research noted that "non drinkers are much more likely to learn about alcohol from their families and schools than are students who drink" (Novello and Shosky, p. 961).

Beck and Summons (1987) discovered that males and females differed in where they got their information about alcohol. The best source of information for males was their own experience and for females it was the mass media. Both females and males would first turn to their families for information (33.7% and 27.7%). The researchers also found that alcohol abusers thought their own experiences were the best source of information, while non-users chose the mass media. The source of information that was chosen the least was teachers and information hotlines. If they had a question

about alcohol, non-users would go to their family first and users would go to their friends first.

In 1989 the National Institute on Drug Abuse High School Senior Survey (Modzeleski, 1990) found that older students would turn to friends for information on alcohol and felt the most credible source was former addicts. Younger students would turn to their parents and also felt parents were the most credible source.

Berdiansky (1991) surveyed 3,502 students in 1985 and 1986 in the sixth and eighth grades in Raleigh. The subjects completed two questionnaires: one regarding alcohol and drug use, the other regarding attitude and knowledge about alcohol and drug use. The results supported the idea that "beliefs about the dangers and health risks of specific substances correspond to lower usage rates for the specific drugs" (p. 33). Of those surveyed, 8% thought that marijuana and alcohol posed serious health problems for people their age. This knowledge did not include long-term effects or danger of using and driving, they mainly pertained to immediate consequences and health risks. Those that held these beliefs used other drugs more often and used alcohol less often than others who did not have such beliefs.

Strecker (1991) did not find an association between knowledge about alcohol and attitude toward alcohol. By compiling the data, using a three-way analysis of variance, it was shown that knowledge of alcohol did not significantly

associate with the dependent variable ($F= 1.34$, $p= .2665$).

Summary

The review of the literature indicated that many factors affected a teen-ager's attitude toward alcohol. Predominantly the evidence demonstrated that there was a difference in attitude toward alcohol between males and females. Studies indicated that an increase in grade level lead to a more positive attitude toward alcohol. Peers, parents, and knowledge all substantially influenced attitude toward alcohol. The difficulty is in determining which factor affects attitude the most.

Statement of the Problem

The purpose of the researcher was to investigate attitude toward alcohol and use of alcohol of 9th through 12th grade students.

Rationale and Importance of the Research

Underage drinking is illegal and a dangerous activity. It would be useful information for counselors to know what influences teen-agers to drink. Understanding how different factors are associated with a teen's attitude toward alcohol can provide a basis for education, prevention, and treatment programs for alcohol use. Using the data to target motivations for adolescent drinking can be beneficial for those planning such programs. The results of the study will contribute to knowledge about alcohol.

The results of the research could be useful to organizations that deal with youth, teachers, and counselors when working with teens on a one-on-one basis. It could also be important to administrators and the school board as they are evaluating and planning a drug education program and organizing the district's curriculum.

The results from the present study provided information pertaining to the following questions:

1. Is there an association between grade level and alcohol questionnaire scores?
2. Is there an association between gender and alcohol questionnaire scores?
3. Is there an association between perceived peer attitude and alcohol questionnaire scores?
4. Is there an association between perceived parental attitude and alcohol questionnaire scores?
5. Is there an association between knowledge of alcohol and alcohol questionnaire scores?

Composite Null Hypotheses

All hypothesis were tested at the .05 level.

1. The differences among mean alcohol questionnaire scores for high school students according to peer attitude toward alcohol, parental attitude toward alcohol, and gender will not be statistically significant.

2. The differences among mean alcohol questionnaire scores for high school students according to parental attitude toward alcohol, gender, and knowledge of alcohol will not be statistically significant.
3. The differences among mean alcohol questionnaire scores for high school students according to gender, knowledge of alcohol, and peer attitude toward alcohol will not be statistically significant.
4. The differences among mean alcohol questionnaire scores for high school students according to knowledge of alcohol, peer attitude toward alcohol, and parental attitude toward alcohol will not be statistically significant.
5. The differences among mean alcohol questionnaire scores for high school students according to grade level, gender, and knowledge of alcohol will not be statistically significant.

Null Hypothesis

The differences between the correlation coefficients for attitude toward alcohol and use of alcohol and zero for high school students will not be statistically significant.

Independent Variables and Rationale

The following independent variables were investigated: gender, grade level, peer attitude, parental attitude, and

knowledge about alcohol. The independent variables were selected and investigated for the following reasons:

1. the results found in the literature were inconclusive, and
2. limited information was found.

Definition of Variables

Independent Variables

All independent variables were self-reported. The following independent variables were investigated:

1. grade level -- four levels,
level 1, 9th grade,
level 2, 10th grade,
level 3, 11th grade, and
level 4, 12th grade;
2. gender -- two levels,
level 1, female, and
level 2, male;
3. peer attitude -- three levels
determined post hoc --
level 1, low (10-21),
level 2, moderate (22-29), and
level 3, high (30-39);

4. parental attitude -- three levels
determined post hoc --
level 1, low (10-16),
level 2, moderate (22-29), and
level 3, high (25-40);
5. knowledge of alcohol -- three levels
determined post hoc --
level 1, low (4-8),
level 2, moderate (9-10), and
level 3, high (11-12).

Dependent Variables

Scores from the following subscales of the inventory were employed as the dependent variables:

1. Use - 3 items, possible scores 0 to 55 and
2. Attitude Toward Drinking - 10 items, possible scores 10 to 40.

Limitations

The results from the present study might have been affected by the following conditions:

1. the sample was not random,
2. the sample was limited to one school and one community, and
3. the data were self-reported.

Methodology

Setting

The study was conducted in Garden City High School in Garden City, Kansas. Garden City has a population of 25,456, a 24% increase since 1980, and is the fastest growing city in Kansas (Garden City Chamber of Commerce, 1992). The 102-year-old community is very ethnically diversified. Directions and instructions are posted in English, Spanish and Vietnamese. Garden City's population consists of 67.7% White, 26.4% Hispanic, 3.4% Southeast Asian, 1.4% Black, and 6% others (Garden City High School NCA Report, 1993).

The changes in population have mainly occurred because of the opening and operation of two beef packing plants. The population of Garden City is highly mobile and young. The turnover rate at Iowa Beef Producers (IBP) is 4% monthly and the unemployment rate is 3.3% in the agriculturally based city (Schalesky, 1993).

The diverse and changing population has created many challenges for Garden City Unified School District 457. The district covers 928 square miles which includes 12 elementary schools (grades K-5), 2 middle schools (grades 6-8), 1 high school (grades 9-12), and 1 alternative secondary school. Total enrollment in the district was 7,234 (Office of Instruction, 1994). Enrollment in USD 457 has increased 36% since 1980. In 1992 new students from 24 states and 65

students from 11 foreign countries enrolled ("Growth Facilities," 1993).

Garden City High School is representative of the community's population. The total enrollment of 1559 students consists of 478 ninth graders, 434 tenth graders, 327 eleventh graders, and 320 twelfth graders. The student body is 52% male and 48% female, with 65% white, 27% Hispanic, 7% Asian, and less than 1% for both Black and American Indian ("School records," 1993).

Subjects

The sample for this research included students from 2 randomly selected classes (from a table of random numbers) for each grade level. The courses chosen were 2 English classes for the freshman, 2 world civilization classes for the sophomores, 2 American history classes for the juniors, and 2 United States government classes for the seniors. The population consisted of 239 subjects (64 freshmen, 53 sophomores, 59 juniors, and 63 seniors) and 208 completed copies of the questionnaire were returned to the researcher. Of those returned, 191 (92%) were correctly and completely marked and usable for data analysis.

Instrumentation

Strecker (1991) developed the Alcohol Attitude Questionnaire (AAQ) in order to assess attitudes, knowledge, and perceptions related to alcohol of sixth and eighth grade

students. The questionnaire (Appendix C) was comprised of the following five parts:

1. Section 1 -- demographics (age, gender, grade classification),
2. Section 2 -- Individual attitude, 10 questions with Likert-type rating, possible score of 10 to 40,
3. Section 3 -- Parental attitude, 9 dichotomized questions, possible score of 0 to 9,
4. Section 4 -- Peer attitude, 9 dichotomized questions, possible score of 0 to 9, and
5. Section 5 -- 10 questions for content knowledge of alcohol, possible score of 0 to 10.

Strecker (1991) conducted reliability and validity studies for the AAQ. The following Cronbach Alpha reliability coefficients were cited by Strecker:

Section 2, Individual Attitude - .80,
 Section 3, Parental Attitude - .72,
 Section 4, Peer Attitude - .83, and
 Section 5, Knowledge of Alcohol - .49.

Strecker cited the following item correlation coefficients for items with total score:

Section 2, Individual Attitude - high (.74) and low (.42)
 Section 3, Parental Attitude - high (.71) and low (.44)
 Section 4, Peer Attitude - high (.75) and low (.56), and
 Section 5, Knowledge of Alcohol - high (.66) and low (.32).

The researcher of the present study and Dona Esplund, graduate student, deleted, added, and edited questions on the AAQ to make it more appropriate for grade level, and added three questions regarding alcohol use. The new questionnaire (Appendix E) consisted of five parts;

1. Demographic Sheet,
2. Attitude Toward Drinking,
3. Parental Attitude,
4. Peer Attitude, and
5. Knowledge of Alcohol.

The Demographic Sheet asked the respondents to state their gender and grade level; these are independent variables. It also consisted of 3 questions regarding alcohol use, which were employed as a dependent variable. Attitude Toward Drinking consisted of 10 questions, both positive and negative, with a Likert-type rating. Parental Attitude utilized 10 questions about perceived parental attitude toward alcohol using a Likert-type rating. The next section, Peer Attitude, employed 10 questions on perceived peer attitude toward alcohol. The questions concerned social situations with friends and thoughts about respondents' friends and included a Likert-type rating. The final section, Knowledge of Alcohol, measured content knowledge about alcohol, and consisted of 12 questions (Appendix E).

The instrument had different scoring for the various parts. The three questions regarding use of alcohol on the

Demographic Sheet were scored by adding the points assigned to the responses on the three questions. Question one was scored; Never = 0, Once a month or less = 5, Once a week = 10, Two or three times a week = 15, Four or Five times a week = 20, and Daily = 25. If "Never" was marked then the respondent should not have answered question two or three. Question two was scored; Beer = 5, Wine or Wine Coolers = 10, and Hard liquor = 15. If more than one response was marked then the highest rating was used for points. Question three was scored; One to two = 5, Three to four = 10, and Five or more = 15. The minimum score for use was 0 and the maximum was 55. Attitude Toward Drinking, Parental Attitude, and Peer Attitude were scored by adding the points for each question for a total possible score of 10 to 40 for each subscale. Each positive toward alcohol question was scored as follows: strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4, with the inverse scoring for negative toward alcohol questions. Knowledge of Alcohol was scored by giving one point for each correct answer for a total possible score of 0 to 12.

Design

A status survey factorial design was employed. The following independent variables were investigated: gender, grade level, peer attitude, parental attitude, and knowledge of alcohol. The dependent variables were scores from the Use and Attitude Toward Alcohol subscales of the inventory. The

sample consisted of 192 subjects and 5 composite null hypotheses were tested at the .05 level using a three-way analysis of variance (general linear model) and a null hypothesis was tested using a t-test for a correlation coefficient. The following designs were utilized;

composite null hypothesis number 1, a 3 X 3 X 2;
composite null hypothesis number 2, a 3 X 2 X 3;
composite null hypothesis number 3, a 2 X 3 X 3;
composite null hypothesis number 4, a 3 X 3 X 3;
composite null hypothesis number 5, a 4 X 2 X 3; and
the null hypothesis, a t-test for a correlation coefficient.

Ten threats to internal validity were cited by McMillan and Schumacher (1989). The present researcher dealt with the 10 threats to internal validity in the following ways:

1. history - did not pertain because the present study was status survey;
2. selection - sections of classes were selected randomly, but individual students were not;
3. statistical regression - did not pertain because the sample contained no extreme subjects;
4. testing - did not pertain because the present study was status survey;
5. instrumentation - did not pertain because the present study was status survey;
6. mortality - all subjects who completed usable

- questionnaires were included in the present study;
7. maturation - did not pertain because the present study was status survey;
 8. diffusion of treatment - did not pertain because the present study was status survey;
 9. experimenter bias - standard procedures were used for collecting data (by individuals other than the researcher) and there was no treatment; and
 10. statistical conclusion - two mathematical assumptions were violated (random sampling and equal number of subjects in cells). The lack of equal number in cells was corrected by using the general linear model, and the researcher did not project beyond the statistical procedures employed.

Two threats to external validity were cited by McMillian and Schumacher (1989). The present researcher dealt with the two threats to external validity in the following ways:

1. population external validity - the sections of classes were selected randomly, but the students were not; therefore, generalizations should be confined to similar settings; and
2. ecological external validity - the data were collected by standard procedures, and no treatment was employed.

Data Collection Procedures

Two freshman English classes, 2 sophomore world history

classes, 2 junior American history classes, and 2 senior United States government classes participated in the survey at Garden City High School. All students were assured of anonymity and confidentiality of individual responses. Specific instructions in regard to completing the instrument were distributed to the participating teachers (Appendix D). Copies of the questionnaire were distributed to the instructors who read the instructions and gave a copy of the survey to the students. The students completed the instrument and returned it to the instructor during class. The instructors then brought the completed copies of the questionnaire to the researcher. The researcher examined, scored, and coded the data. The computing center at Fort Hays State University analyzed the data.

Research Procedures

The following steps were implemented:

1. research topic was chosen;
2. conducted electronic and hard copy searches for related literature using SIRS, ERIC, PsycLit, and the Kansas Library Catalog;
3. collected and reviewed the related literature;
4. selected instrument;
5. requested permission to use and revise the instrument from the author;
6. revised the instrument (AAQ);
7. composed the review of the literature;

8. determined the population to be sampled;
9. collected the data;
10. wrote the proposal;
11. defended the proposal;
12. tabulated and analyzed the data;
13. wrote and defended a final report; and
14. final editing of the document..

Data Analysis

The following were compiled:

1. appropriate descriptive statistics,
2. three-way analysis of variance (general linear model),
3. Bonferroni (Dunn) t -test for means,
4. Duncan's multiple range test for means, and
5. t -test for a correlation coefficient.

Results

The purpose of the researcher was to investigate high school students' attitude toward and use of alcohol. The following independent variables were investigated: gender, grade level, peer attitude, parental attitude, and knowledge of alcohol. Alcohol questionnaire scores for Use of Alcohol and Attitude Toward Drinking were employed as dependent variables. The sample consisted of 191 students. Five composite null hypotheses and one null hypothesis were tested at the .05 level. A status survey factorial design was employed using a three-way analysis of variance (general

linear model) for the composite null hypotheses and one hypothesis was tested employing a t-test for a correlation coefficient. The following designs were utilized;

composite null hypothesis number one, a $3 \times 3 \times 2$;
composite null hypothesis number two, a $3 \times 2 \times 3$;
composite null hypothesis number three, a $2 \times 3 \times 3$;
composite null hypothesis number four, a $3 \times 3 \times 3$;
composite null hypothesis number five, a $4 \times 2 \times 3$; and
the null hypothesis, a t-test for a correlation coefficient.

The results section was organized according to composite null hypotheses and null hypothesis for ease of reference. Information pertaining to each hypothesis was presented in a common format for ease of comparison.

It was hypothesized in composite null hypothesis number one that the differences among mean alcohol questionnaire scores for high school students according to peer attitude toward alcohol, parental attitude toward alcohol, and gender would not be statistically significant. Table 1 contains information pertaining to composite null hypothesis number one. The following were cited in Table 1: variables, group sizes, means, standard deviations, F values, and p levels.

Table 1: A Comparison of Mean Alcohol Questionnaire Scores of High School Students According to Peer Attitude Toward Alcohol, Parental Attitude Toward Alcohol, and Gender Employing a Three-way Analysis of Variance (General Linear Model)

Variable	n	M*	S	F value	p level
<u>Attitude Toward Drinking**</u>					
<u>Peer Attitude Toward Alcohol (A)</u>					
High	50	27.8 ^a	4.36	4.67	.0001
Moderate	97	22.5 ^b	4.92		
Low	44	15.0 ^c	3.90		
<u>Parental Attitude Toward Alcohol (B)</u>					
High	49	26.4 ^a	5.33	5.53	.0047
Moderate	92	22.2 ^b	5.68		
Low	50	17.9 ^c	5.76		
<u>Gender (C)</u>					
Male	98	23.3	6.50	0.01	.9041
Female	93	20.9	6.05		
<u>Interactions</u>					
A x B				1.23	.2997
A x C				0.62	.5411
B x C				0.45	.6397
A x B x C				0.23	.9198
(continued)					

Table 1: (continued)

Variable	n	M	S	F value	p level
<u>Use of Alcohol ***</u>					
<u>Peer Attitude Toward Alcohol (A)</u>					
High	50	29.5 ^a	12.67	21.67	.0001
Moderate	97	18.7 ^b	13.14		
Low	44	3.1 ^c	7.94		
<u>Parental Attitude Toward Alcohol (B)</u>					
High	49	26.5 ^a	12.76	5.57	.0045
Moderate	92	18.4 ^b	14.22		
Low	50	9.0 ^c	14.14		
<u>Gender (C)</u>					
Male	98	18.5 ^g	15.50	5.83	.0168
Female	93	17.5 ^h	14.85		
<u>Interactions</u>					
A x B				1.06	.3780
A x C				0.63	.5335
B x C				1.69	.1884
A x B x C				1.82	.1276

^a The greater the value the more positive the attitude.

^{ab} The possible scores and theoretical mean were the following: (10-40, 25).

^{abc} The possible scores were the following: (0-55).

^{abc} Means with different alphabetical symbols statistically significant at the .05 level according to Bonferroni (Dunn) j-test for means.

^{gh} Difference statistically significant at the .05 level.

Five of the 14 p values were statically significant at the .05 level; therefore, the null hypotheses for these comparisons were rejected. The statistically significant comparisons were for main effects. The following main effects were statistically significant:

1. Peer Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking;
2. Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking;
3. Peer Attitude Toward Alcohol for the dependent variable Use of Alcohol;
4. Parental Attitude Toward Alcohol for the dependent variable Use of Alcohol; and
5. Gender for the dependent variable Use of Alcohol.

The results cited in Table 1 indicated the following for main effects:

1. high school students who reported high Peer Attitude Toward Alcohol had a mean Attitude Toward Drinking score significantly higher than those with moderate and low Peer Attitude Toward Alcohol and those with moderate Peer Attitude Toward Alcohol had a mean Attitude Toward Drinking score significantly higher than those with low Peer Attitude Toward Alcohol;
2. high school students who reported high Parental Attitude Toward Alcohol had a mean Attitude Toward

Drinking score significantly higher than those with moderate and low Parental Attitude Toward Alcohol and those with moderate Parental Attitude Toward Alcohol had a mean Attitude Toward Drinking score significantly higher than those with low Parental Attitude Toward Alcohol;

3. high school students who reported high Peer Attitude Toward Alcohol had a mean Use of Alcohol score significantly higher than those with moderate and low Peer Attitude Toward Alcohol and those with moderate Peer Attitude Toward Alcohol had a mean Use of Alcohol score significantly higher than those with low Peer Attitude Toward Alcohol;
4. high school students who reported high Parental Attitude Toward Alcohol had a mean Use of Alcohol score significantly higher than those with moderate and low Parental Attitude Toward Alcohol and those with moderate Parental Attitude Toward Alcohol had a mean Use of Alcohol score significantly higher than those with low Parental Attitude Toward Alcohol; and
5. male students had a significantly higher mean Use of Alcohol score than females.

It was hypothesized in null hypothesis number two that the differences among mean alcohol questionnaire scores for high school students according to parental attitude toward alcohol, gender, and knowledge of alcohol would not be statistically significant. Table 2 contains information pertaining to composite null hypothesis number two. The following were cited in Table 2: variables, group sizes, means, standard deviations, F values, and p levels.

Table 2: A Comparison of Mean Alcohol Questionnaire Scores of High School Students According to Parental Attitude, Gender, and Knowledge of Alcohol Employing a Three-way Analysis of Variance (General Linear Model)

Variable	n	M*	S	F value	p level
<u>Attitude Toward Drinking **</u>					
<u>Parental Attitude Toward Alcohol (B)</u>					
High	49	26.4 ^a	5.33	25.88	.0001
Moderate	92	22.2 ^b	5.68		
Low	50	17.9 ^c	5.76		
<u>Gender (C)</u>					
Male	98	23.2	6.50	1.41	.2373
Female	93	20.9	6.05		
<u>Knowledge of Alcohol (D)</u>					
High	43	20.8	6.54	2.13	.1215
Moderate	102	23.0	6.01		
Low	46	21.6	6.90		
<u>Interactions</u>					
B x C				1.11	.3312
B x D				2.28	.0625
C x D				0.26	.7708
B x C x D				0.34	.8505
(continued)					

Table 2: (continued)

Variable	n	M	S	F value	p level
<u>Use of Alcohol***</u>					
<u>Parental Attitude Toward Alcohol (B)</u>					
High	49	26.5 ^a	12.76		
Moderate	92	18.4 ^b	14.22	17.06	.0001
Low	50	9.0 ^c	14.14		
<u>Gender (C)</u>					
Male	98	18.5	15.50		
Female	93	14.7	14.85	0.55	.4603
<u>Knowledge of Alcohol (D)</u>					
High	43	16.2	16.21		
Moderate	101	19.7	14.83	0.95	.3896
Low	46	16.1	17.75		
<u>Interactions</u>					
		B x C		0.37	.6910
		B x D		1.01	.4030
		C x D		0.08	.9261
		B x C x D		0.52	.7208

* The greater the value the more positive the attitude.

** The possible scores and theoretical mean were the following: (10-40, 25).

*** The possible scores were the following: (0-55).

abc Means with different alphabetical symbols statistically significant at the .05 level according to Bonferroni (Dunn) t-test for means.

Two of the 14 p values were statistically significant at the .05 level; therefore, the hypotheses for these comparisons were rejected. The significant comparisons were for main effects. The following main effects were statistically significant.

1. Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking (recurring, Table 1); and
2. Parental Attitude Toward Alcohol for the dependent variable Use of Alcohol (recurring, Table 1).

It was hypothesized in composite null hypothesis number three that the differences among mean alcohol questionnaire scores for high school students according to gender, knowledge of alcohol, and peer attitude toward alcohol would not be statistically significant. Table 3 contains information pertaining to composite null hypothesis number three. The following were cited in Table 3: variables, group sizes, means, standard deviations, F values, and p levels.

Table 3: A Comparison of Mean Alcohol Questionnaire Scores of High School Students According to Gender, Knowledge of Alcohol, and Peer Attitude Toward Alcohol Employing a Three-way Analysis of Variance (General Linear Model)

Variable	n	M*	S	F value	p level
<u>Attitude Toward Drinking**</u>					
<u>Gender (C)</u>					
Male	98	23.3	6.50	3.43	.0657
Female	93	20.9	6.05		
<u>Knowledge of Alcohol (D)</u>					
High	43	20.8	6.54	0.99	.3743
Moderate	102	23.0	6.01		
Low	46	21.6	6.90		
<u>Peer Attitude Toward Alcohol (A)</u>					
High	50	27.8 ^a	4.36	79.34	.0001
Moderate	97	22.5 ^b	4.92		
Low	44	15.1 ^c	3.90		
<u>Interactions</u>					
C x D				0.39	.6750
C x A				1.39	.2527
D x A				0.30	.8773
C x D x A				0.45	.7757
(continued)					

Table 3: (continued)

Variable	n	M	S	F value	p level
<u>Use of Alcohol***</u>					
<u>Gender (C)</u>					
Male	98	18.5	15.50	.40	.5255
Female	93	17.5	14.85		
<u>Knowledge of Alcohol (D)</u>					
High	43	16.2	16.21	.18	.8359
Moderate	102	19.7	14.83		
Low	46	16.1	14.75		
<u>Peer Attitude Toward Alcohol (A)</u>					
High	50	29.5 ^a	12.67	51.26	.0001
Moderate	97	18.9 ^b	13.14		
Low	44	3.1 ^c	7.94		
<u>Interactions</u>					
		C x D		.40	.6686
		C x A		.08	.9248
		D x A		.98	.4183
		C x D x A		.44	.7790

* The greater the value the more positive the attitude.

** The possible scores and theoretical mean were the following: (10-40, 25).

*** The possible scores were the following: (0-55).

abc Means with different alphabetical symbols statistically significant at the .05 level according to Bonferroni (Dunn) $\frac{1}{2}$ - test for means.

Two of the 14 p values were statically significant at the .05 level; therefore, the hypotheses for the comparisons were rejected. The significant comparisons were for main effects. The following main effects were statistically significant:

1. Peer Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking (recurring, Table 1); and
2. Peer Attitude Toward Alcohol for the dependent variable Use of Alcohol (recurring, Table 1).

It was hypothesized in composite null hypothesis number four that the differences among mean alcohol questionnaire scores for high school students according to knowledge of alcohol, peer attitude toward alcohol, and parental attitude toward alcohol would not be statistically significant. Table 4 contains information pertaining to composite null hypothesis number four. The following were cited in table 4: variables, group sizes, means, standard deviations, F values, and p levels.

Table 4: A Comparison of Mean Alcohol Questionnaire Scores of High School Students According to Knowledge of Alcohol, Peer Attitude Toward Alcohol, and Parental Attitude Toward Alcohol Employing a Three-way Analysis of Variance (General Linear Model)

Variable	n	M*	S	F value	p level
<u>Attitude Toward Drinking**</u>					
<u>Knowledge of Alcohol (D)</u>					
High	43	20.8	6.54		
Moderate	102	23.0	6.01	1.35	.2627
Low	46	21.6	6.90		
<u>Peer Attitude Toward Alcohol (A)</u>					
High	50	27.8 ^a	4.36		
Moderate	97	22.5 ^b	4.92	36.36	.0001
Low	44	15.1 ^c	3.90		
<u>Parental Attitude Toward Alcohol (B)</u>					
High	49	26.5 ^a	5.33		
Moderate	92	22.2 ^b	5.68	8.97	.0002
Low	50	17.9 ^c	5.76		
<u>Interactions</u>					
	D x A			0.54	.7045
	D x B			2.08	.0857
	A x B			1.67	.1594
	D x A x B			0.20	.9760
(continued)					

Table 4: (continued)

Variable	n	M	S	F value	p level
<u>Use of Alcohol***</u>					
<u>Knowledge of Alcohol (D)</u>					
High	43	16.2	16.21		
Moderate	102	19.7	14.83	2.23	.1112
Low	46	16.1	14.75		
<u>Peer Attitude Toward Alcohol (A)</u>					
High	50	29.5 ^a	12.67		
Moderate	97	18.9 ^b	13.14	19.37	.0001
Low	44	3.1 ^c	7.94		
<u>Parental Attitude Toward Alcohol (B)</u>					
High	49	26.5 ^a	12.76		
Moderate	92	18.4 ^b	14.22	6.05	.0029
Low	50	9.0 ^c	14.14		
<u>Interactions</u>					
		D x A		1.35	.2528
		D x B		1.95	.1053
		A x B		0.64	.6328
		D x A x B		2.12	.0536

* The greater the value the more positive the attitude.

** The possible scores and theoretical mean were the following: (10-40, 25).

*** The possible scores were the following: (0-55).

abc Means with different alphabetical symbols statistically significant at the .05 level according to Bonferroni (Dunn) j-test for means.

Four of the 14 p values were statistically significant at the .05 level; therefore, the hypotheses for these comparisons were rejected. The significant comparisons were for main effects. The following main effects were statistically significant:

1. Peer Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking (recurring, Table 1);
2. Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking (recurring, Table 1);
3. Peer Attitude Toward Alcohol for the dependent variable Use of Alcohol (recurring Table 1); and
4. Parental Attitude Toward Alcohol for the dependent variable Use of Alcohol (recurring Table, 1).

It was hypothesized in composite null hypothesis number five that the differences among mean alcohol questionnaire scores for high school students according to grade level, gender, and knowledge of alcohol would not be statistically significant. Table 5 contains information pertaining to composite null hypothesis number five. The following were cited in Table 5: variables, group sizes, means, standard deviations, F values, and p levels.

Table 5: A Comparison of Mean Alcohol Questionnaire Scores for High School Students According to Grade Level, Gender, and Knowledge of Alcohol Employing a Three-way Analysis of Variance (General Linear Model)

Variable	n	M*	S	F value	p level
<u>Attitude Toward Drinking**</u>					
<u>Grade Level (E)</u>					
9th	50	21.6	6.05	2.69	.0479
10th	42	19.7 ^a	6.89		
11th	47	23.1 ^b	6.73		
12th	52	23.9 ^b	5.34		
<u>Gender (C)</u>					
Male	98	23.3 ^a	6.50	5.67	.0184
Female	93	20.9 ^b	6.05		
<u>Knowledge of Alcohol (D)</u>					
High	43	20.8	6.54	1.54	.2181
Moderate	102	23.0	6.01		
Low	46	21.6	6.90		
<u>Interactions</u>					
E x C				0.38	.7711
E x D				1.49	.1836
C x D				0.26	.7692
E x C x D				1.65	.1370
(continued)					

Table 5: (continued)

Variable	n	M	S	F value	p level
<u>Use of Alcohol***</u>					
<u>Grade Level (E)</u>					
9th	50	16.5	14.33	1.71	.1678
10th	42	14.6	14.25		
11th	47	20.9	16.56		
12th	52	16.56	15.04		
<u>Gender (C)</u>					
Male	98	18.5	15.50	0.37	.5444
Female	93	17.5	14.85		
<u>Knowledge of Alcohol (D)</u>					
High	43	16.2	16.21	1.53	.2191
Moderate	102	19.7	14.83		
Low	46	16.1	14.75		
<u>Interactions</u>					
E x C				0.16	.9203
E x D				0.85	.5336
C x D				0.18	.8373
E x C x D				1.50	.1825

* The greater the value the more positive the attitude.

** The possible scores and theoretical mean were the following: (10-40, 25).

*** The possible scores were the following: (0-55).

abc Means with different alphabetical symbols statistically significant at the .05 level according to Bonferroni (Dunn) j-test for means.

Two of the 14 p values were statistically significant at the .05 level; therefore, the hypotheses for these comparisons were rejected; The significant comparisons were for main effects. The following main effects were statistically significant:

1. Grade Level for the dependent variable Attitude Toward Drinking; and
2. Gender for the dependent variable Attitude Toward Drinking.

The results cited in Table 5 indicated the following for main effects:

1. students in 11th grade and 12th grade had a mean Attitude Toward Drinking score significantly higher than 10th grade students; and
2. male students had a significantly higher mean Attitude Toward Drinking score than females.

It was hypothesized in a null hypothesis that the difference between the calculated correlation for attitude toward drinking and use of alcohol scores among high school students and zero will not be statistically significant. Information pertaining to this null hypothesis was presented in Table 6. The following information was cited in Table 6: variables, group sizes, means, standard deviations, and correlation coefficient.

Table 6: A Comparison of the Calculated Correlation Coefficient for Attitude Toward Drinking, Use of Alcohol, and Zero for High School Students Employing a t - test for Single Mean

Variable	n	M	S	r
<u>Attitude Toward Drinking</u>				
	191	22.2	6.39	
				.71*
<u>Use of Alcohol</u>				
	191	18.0	15.16	

* Statistically significant at the .01 level

The calculated correlation coefficient between Attitude Toward Alcohol and Use of Alcohol of .71 was statistically significant at the .05 level; therefore, the null hypothesis for this comparison was rejected. The results cited in Table 6 indicated the relationship between Attitude Toward Drinking and use of alcohol was positive and significantly greater than zero.

Discussion

Summary

The purpose of the researcher was to investigate high school students' attitude toward and use of alcohol. The following independent variables were investigated: gender, grade level, peer attitude, parental attitude, and knowledge of alcohol. Alcohol questionnaire scores for Use of Alcohol and Attitude Toward Drinking were employed as dependent variables. The sample consisted of 191 students. Five composite null hypotheses and one null hypothesis were tested at the .05 level. A status survey factorial design was employed using a three-way analysis of variance (general linear model) for the composite null hypothesis and one hypotheses was tested employing a t-test for a correlation coefficient. Of the 36 comparisons, 11 were main effects and 26 were interactions. Of the 11 main effects, 8 were statistically significant at the .05 level. The statistically significant main effects were as follows:

1. the independent variable Peer Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking;
2. the independent variable Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking;

3. the independent variable Peer Attitude Toward Alcohol for the dependent variable Use of Alcohol;
4. the independent variable Parental Attitude Toward Alcohol for the dependent variable Use of Alcohol;
5. the independent variable Gender for the dependent variable Use of Alcohol;
6. the independent variable Grade Level for the dependent variable Attitude Toward Drinking;
7. the independent variable Gender for the dependent variable Attitude Toward Drinking; and
8. a statistically significant t-test value for the correlation coefficient between Attitude Toward Drinking and Use of Alcohol.

The results indicated the following for main effects:

1. high school students who reported high Peer Attitude Toward Alcohol had a mean Attitude Toward Drinking score significantly higher than those with moderate and low Peer Attitude Toward Alcohol and those with moderate Peer Attitude Toward Alcohol had a mean Attitude Toward Drinking score significantly higher than those with low Peer Attitude Toward Alcohol;
2. high school students who reported high Parental Attitude Toward Alcohol had a mean Attitude Toward Drinking score significantly higher than those with moderate and low Parental Attitude Toward Alcohol

and those with moderate Parental Attitude Toward Alcohol had a mean Attitude Toward Drinking score significantly higher than those with low Parental Attitude Toward Alcohol;

3. high school students who reported high Peer Attitude Toward Alcohol had a mean Use of Alcohol score significantly higher than those with moderate and low Peer Attitude Toward Alcohol and those with moderate Peer Attitude Toward Alcohol had a mean Use of Alcohol score significantly higher than those with low Peer Attitude Toward Alcohol;
4. high school students who reported high Parental Attitude Toward Alcohol had a mean Attitude Toward Drinking score significantly higher than those with moderate and low Parental Attitude Toward Alcohol and those with moderate Parental Attitude Toward Alcohol had a mean Attitude Toward Drinking score significantly higher than those with low Parental Attitude Toward Alcohol;
5. male students had a significantly higher mean Use of Alcohol score than females;
6. students in 11th grade and 12th grade had a mean Attitude Toward Drinking score significantly higher than 10th grade students;
7. male students had a significantly higher mean Attitude Toward Drinking score than females; and

8. a statistically positive association between
Attitude Toward Alcohol and Use of Alcohol.

None of the 26 interactions were statistically significant at the .05 level.

The Related Literature and Results of the Present Study

The results of the present study supported the findings of Beck and Summons (1987), Torabi and Veenker (1986), and Kandal and Logan (1984) who found that males drink more than females and also have a more positive attitude toward alcohol than females. The results also supported the findings regarding alcohol use increasing with grade level of Gibbons, Wylie, Echterling, and French (1986) and McLaughlin, Baer, Pokorny, Burnside, and Fairlie (1984).

The present researcher found both Peer Attitude Toward Alcohol and Parental Attitude Toward Alcohol to be statistically associated with Attitude Toward Drinking and Use of Alcohol. These results supported researchers who have reported similar findings in previous studies, yet did not support them in indicating that either peer attitude or parental attitude is more influential or important than the other in regard to attitude toward and use of alcohol. The results of the present study supported Strecker (1991) who did not find an association between knowledge about alcohol and attitude toward alcohol.

Generalizations

The results of the present study appeared to support the following generalizations:

1. a more positive peer attitude toward alcohol is associated with a more positive attitude toward drinking;
2. a more positive peer attitude toward alcohol is associated with higher use of alcohol;
3. a more positive parental attitude toward alcohol is associated with a more positive attitude toward drinking;
4. a more positive parental attitude toward alcohol is associated with higher use of alcohol;
5. males have a more positive attitude toward drinking than females;
6. males have higher use of alcohol than females;
7. an increase in grade level is associated with a more positive attitude toward drinking;
8. there is no association between grade level and use of alcohol;
9. knowledge of alcohol is not associated with attitude toward drinking;
10. knowledge of alcohol is not associated with use of alcohol; and
11. there is a positive association between attitude toward drinking and use of alcohol.

Implications

The results of the present study appeared to support the following implications:

1. by providing a rationale for school districts to develop or purchase a program to reduce or prevent alcohol use among high school students;
2. by providing a guideline for specific goals and strategies in developing or purchasing a program to reduce or prevent alcohol use among high school students; and
3. teachers and counselors should place a greater emphasis on individuality and resisting outside influence, such as peer pressure.

Recommendations

Results of the present study appeared to support the following recommendations:

1. the study should be replicated using a more difficult and comprehensive test of Knowledge of Alcohol;
2. the study should be replicated in other geographical areas; and
3. the study should be replicated with a large random sample.

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Appendix A
Letter to Glen Strecker

March 16, 1994

Glen Strecker
4002 Country Lane
Hays, KS 67601

Dear Mr. Strecker:

I am a graduate student at Fort Hays State University, Hays, Kansas, and am presently in the beginning stage of a thesis. As I was considering possible topics, I read your thesis regarding students' attitudes toward the use of alcohol. I am interested in investigating high school student's attitudes toward alcohol.

I am writing you for permission to use, modify, and include a copy in my thesis, the instrument you developed for your study. I would appreciate a response at your earliest convenience.

Thank you for your help and consideration.

Sincerely,

Kae Lee Pfingsten

Kae Lee Pfingsten

Appendix B

Note of Permission from Glen Strecker

March 16, 1994

Glen Strecker
4002 Country Lane
Hays, KS 67601

Dear Mr. Strecker:

I am a graduate student at Fort Hays State University, Hays, Kansas, and am presently in the beginning stage of a thesis. As I was considering possible topics, I read your thesis regarding students' attitudes toward the use of alcohol. I am interested in investigating high school student's attitudes toward alcohol.

I am writing you for permission to use, modify, and include a copy in my thesis, the instrument you developed for your study. I would appreciate a response at your earliest convenience.

Thank you for your help and consideration.

Sincerely,

Kae Lee Pfingsten

Kae Lee Pfingsten

*Mr. Strecker -
you have my permission to
use/modify the questionnaire developed in
my thesis.*

Glen Strecker

Appendix C

Copy of Questionnaire of Glen Strecker

ALCOHOL ATTITUDE QUESTIONNAIRE

Section 1.

SEX: ☐ male ☐ female

AGE: _____ CLASS: _____

Section 2. Individual Attitude

1. Drinking is not healthy.
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree
2. Parties and alcohol go together.
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree
3. It is O. K. to get drunk.
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree
4. It is wrong for minors to drink .
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree
5. I hate being around people drinking.
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree
6. I like to be around people who drink.
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree
7. Drinking is O. K. if you don't get drunk.
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree
8. Drinking is for fools.
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree
9. Drinking makes people feel good.
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree
10. I would like getting high on alcohol.
☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree

Section 3. Parental Attitude

1. My parents have friends who drink a lot.
☐ YES ☐ NO
2. My parents think it is all right to drink at parties.
☐ YES ☐ NO
3. One or both of my parents drink.
☐ YES ☐ NO
4. If I had a drink my parents would be upset.
☐ YES ☐ NO
5. My parents usually keep some type of alcohol in our house.
☐ YES ☐ NO
6. My parents think it is OK to drink.
☐ YES ☐ NO
7. If I got drunk my parents would be upset.
☐ YES ☐ NO
8. My parents will allow me to drink when I am in high school.
☐ YES ☐ NO
9. My parents have given me a drink.
☐ YES ☐ NO

Section 4. Peer Attitude

1. Do your close friends think it is "cool" to drink?
☐ YES ☐ NO
2. Do you have close friends who drink?
☐ YES ☐ NO

3. Has any good friend ever gotten drunk?

☐ YES ☐ NO

4. Would your best friend be mad at you if you drank?

☐ YES ☐ NO

5. If a good friend offered a drink, would you take it?

☐ YES ☐ NO

6. Would your best friend be mad at you if you got drunk?

☐ YES ☐ NO

7. If you had a party would you allow a friend to bring alcohol?

☐ YES ☐ NO

8. My friends drink once in a while.

☐ YES ☐ NO

9. My friends will probably drink when they get in high school.

☐ YES ☐ NO

Section 5. Knowledge of Alcohol

1. Do alcoholics dress and look different than most people?

☐ YES ☐ NO

2. Is alcohol considered a drug?

☐ YES ☐ NO

3. To legally drink alcohol in Kansas you must be at least ____ years old.

☐ 16 ☐ 18 ☐ 21

4. Is alcoholism considered a disease?

☐ YES ☐ NO

5. A small amount of alcohol actually improves your reactions and thinking by relaxing you.
☐ YES ☐ NO
6. Alcoholics are people who are drunk most of the time.
☐ YES ☐ NO
7. A shot glass is a large mug that beer is served in.
☐ YES ☐ NO
8. Which contains the most alcohol; an ounce of beer, an ounce of wine, or an ounce of whiskey.
☐ beer ☐ wine ☐ whiskey
9. It would be easy for an alcoholic to stop drinking if they really wanted to.
☐ YES ☐ NO
10. Alcohol is less harmful than other drugs, such as marijuana.
☐ YES ☐ NO

Appendix D
Instructions to Teachers

Instructors:

I would like you to distribute this survey to your ____ hour class. Please remind your students that each student should work individually. Individual responses will be kept confidential. The students do have the option of not participating. When all students have completed the instrument; please collect all copies and return them to me in the envelope provided. This research is central to my thesis. I appreciate the time you have taken out of your schedule.

Thank you for your cooperation.

Please read the following out loud to your students.

Instructions

This is a study conducted for a thesis in counseling at Fort Hays State University. Each of you have the option of not participating in the study. If you do not choose to participate, please return the copies of the questionnaires to your instructor immediately. All individual information will be kept confidential. Do not put your name on the questionnaires. If you choose to participate, please read each statement carefully. Record your immediate reaction to the statement by marking an "X" on the appropriate blank. Make only one response per item. Mark every item on each copy of the questionnaire.

For this survey, drink or drinking refers to consuming any type of alcoholic beverage such as beer, wine, whiskey, or other.

Appendix E
Revised Instrument

Instructions

This is a study conducted for a thesis in counseling at Fort Hays State University. Each of you have the option of not participating in the study. If you do not choose to participate, please return the copies of the questionnaires to your instructor immediately. All individual information will be kept confidential. Do not put your name on the questionnaires. If you choose to participate, please read each statement carefully. Record your immediate reaction to the statement by marking an "X" on the appropriate blank. Make only one response per item. Mark every item on each copy of the questionnaire.

For this survey, drink or drinking refers to consuming any type of alcoholic beverage such as beer, wine, whiskey, or other.

Demographic Sheet

(Answer all questions and mark each question only once
by placing an "X" in the appropriate blank.)

SEX: ☐ male ☐ female

GRADE: ☐ freshman
 ☐ sophomore
 ☐ junior
 ☐ senior

USE:

1. How often do you drink alcoholic beverages.

- a. ☐ Never
- b. ☐ Once a month or less
- c. ☐ Once a week
- d. ☐ Two or three times a week
- e. ☐ Four or five times a week
- f. ☐ Daily

**If you marked the first question "never," please omit the second and third questions.

2. Which of the following do you usually drink?
(mark all that obtain)

- a. ☐ Beer
- b. ☐ Wine or wine coolers
- c. ☐ Hard liquor (Whiskey, Vodka, Schnapps, ect.)

3. How many drinks do you usually have each time?
(Please mark only one.)

- a. ☐ 1 -- 2
- b. ☐ 3 -- 4
- c. ☐ 5 or more.

Attitude Toward Drinking

(Answer all questions and mark each question only once
by placing an "X" in the appropriate blank.)

1. Everyone has a right to drink as much as he/she wants.
 strongly
_____disagree _____disagree _____agree _____agree
2. Parties and alcohol go together.
 strongly
_____disagree _____disagree _____agree _____agree
3. It is all right to get drunk.
 strongly
_____disagree _____disagree _____agree _____agree
4. Minors should not drink.
 strongly
_____disagree _____disagree _____agree _____agree
5. Someone should never drink alcoholic beverages.
 strongly
_____disagree _____disagree _____agree _____agree
6. I like being around people who drink.
 strongly
_____disagree _____disagree _____agree _____agree
7. Getting drunk is not cool.
 strongly
_____disagree _____disagree _____agree _____agree
8. Drinking makes people feel good.
 strongly
_____disagree _____disagree _____agree _____agree
9. I would like to get a "buzz" on alcohol.
 strongly
_____disagree _____disagree _____agree _____agree
10. Teenagers should be able to drink as much as they want.
 strongly
_____disagree _____disagree _____agree _____agree

Parental Attitude

(Answer all questions and mark each question only once by placing an "X" in the appropriate blank.)

1. My parents have many friends who drink a lot.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree
2. My parents think it is all right for me to drink at parties.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree
3. One or both of my parents drink a lot.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree
4. If my parents knew I had a drink, they would be upset.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree
5. My parents usually keep alcoholic beverages in our home.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree
6. My parents think drinking is all right.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree
7. My parents do not attend social functions where alcohol is served.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree
8. My parents allow me to drink.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree
9. On occasion, my parents have given me alcoholic beverages.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree
10. I have drunk in the presence of my parents.
_____strongly _____disagree _____agree _____strongly
_____disagree _____disagree _____agree _____agree

Peer Attitude

(Answer all questions and mark each question only once
by placing an "X" in the appropriate blank.)

1. My close friends think it is "cool" to drink.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree
2. I have close friends who drink.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree
3. A good friend of mine has been drunk.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree
4. My best friend would be mad at me if I drank.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree
5. If a good friend offered me a drink, and I did not take it, he/she would be upset.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree
6. My best friend would be mad at me if I got drunk.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree
7. If my friend had a party, he/she would be mad if I brought alcohol.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree
8. My friends drink once in a while.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree
9. Most of my friends drink.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree
10. My friends think it is cool to drink.

strongly

strongly

_____disagree
_____disagree
_____agree
_____agree

Knowledge of Alcohol

(Answer all questions and mark each question only once
by placing an "X" in the appropriate blank.)

1. Alcoholics dress and look differently than most people.
_____ YES _____ NO
2. Alcohol is considered a drug.
_____ YES _____ NO
3. Heavy alcohol use is associated with liver damage.
_____ YES _____ NO
4. Alcoholism is considered a disease by many people.
_____ YES _____ NO
5. A small amount of alcohol actually improves your reactions and thinking
by relaxing you.
_____ YES _____ NO
6. Alcoholics are people who get drunk most of the time.
_____ YES _____ NO
7. To be an alcoholic one must drink hard liquor.
_____ YES _____ NO
8. Which contains the most alcohol--an ounce of beer, an ounce of wine, or
an ounce of whiskey?
_____ beer _____ wine _____ whiskey
9. A smaller person will get drunk on less alcohol.
_____ YES _____ NO
10. A person will be able to tell if he/she is too drunk to drive.
_____ YES _____ NO
11. A person who frequently drinks a lot can drink more before his/her blood
alcohol level increases enough to affect driving.
_____ YES _____ NO
12. Even though no alcohol is in a persons blood stream, a hangover can
impair his/her driving ability by up to 20%.
_____ YES _____ NO